



CHANGE FOR  
THE BETTER WITH  
ENERGY STAR

# Design for Energy Star

Martha Layne Collins High School  
Shelby County School District  
Shelbyville, Kentucky



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# PROJECT TEAM

- OWNER- Shelby County Public Schools
  - Kerry Whitehouse, Asst. Superintendent
  - Doug Boston, Project Manager
- ARCHITECT- Sherman Carter Barnhart
  - Mike Smith, Principal
- M/E/P ENGINEER- BCCLT
  - Tom Sorrell, Principal



- Comprehensive Charette
  - Architecture
  - Energy
  - Environment
- Identify Synergies
  - Design Concepts & Energy Use
- Develop Project
  - Scope, Budget & Schedule
  - Energy Target



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# ASSEMBLE DESIGN TEAM

- Select Design Team
  - Architecture
  - Engineering
  - Site design
- Adopt Integrated Design approach
  - First Step
  - Holistic



- Set Energy Targets
  - 2030 Goal
  - Energy Star Target Finder
- Use Design Guidance
  - Energy Strategies & Technologies
- Review Case Studies
  - Demonstrated Energy Efficiency



- Visit Existing Buildings
- Consider Impacts
  - Financial
  - Environmental
- Properly Fund
  - Integrated Design Approach



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# SCHEMATIC DESIGN

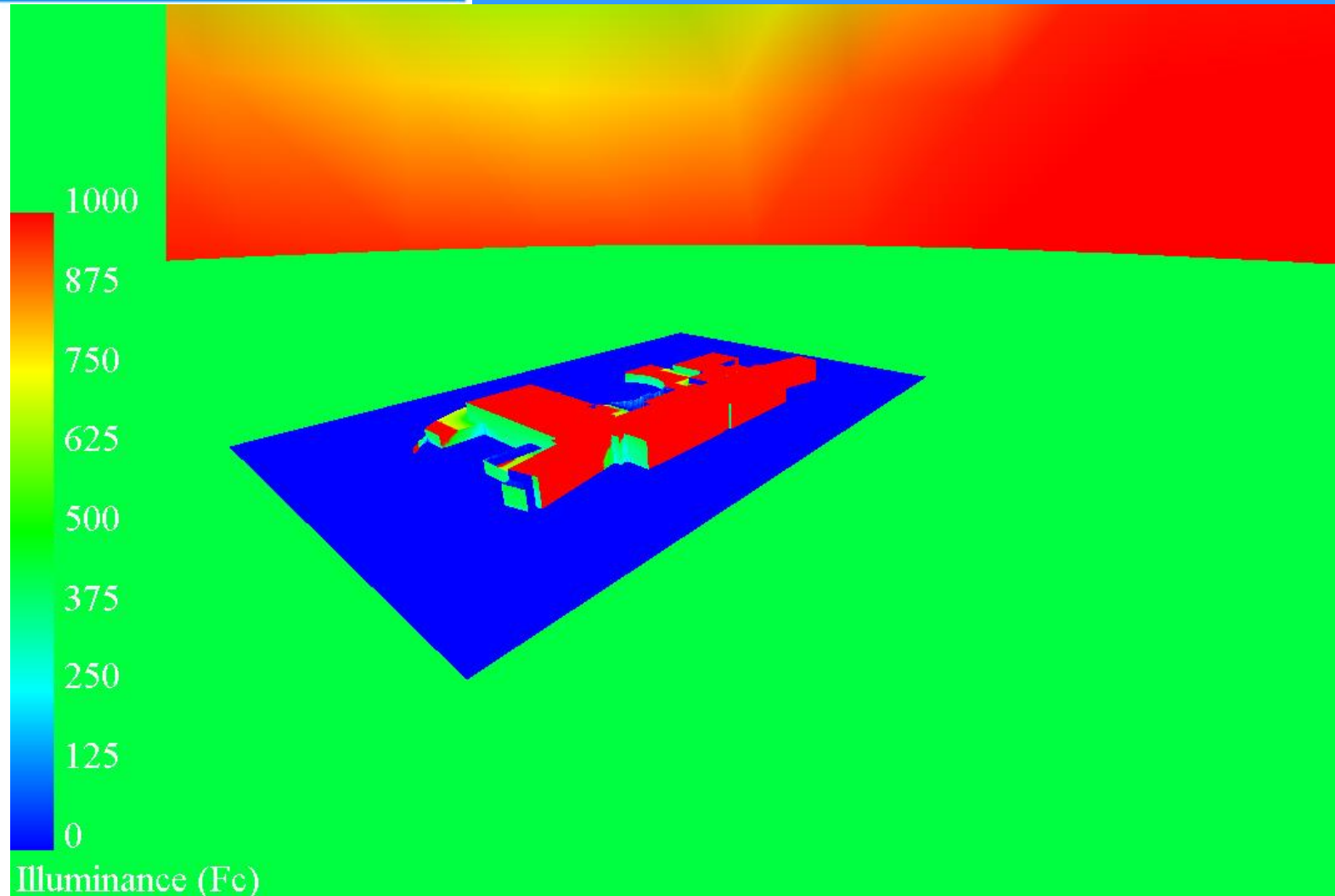
- Analyze
  - Energy Review Design Concepts
  - Site & Building Orientation Impact





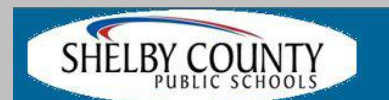
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# SOLAR ORIENTATION 9 AM DEC 21 SOUTH



Biagi, Chance, Cummins, London, Titzer, Inc.  
Consulting Engineers

*Sherman Carter Barnhart* PSC  
ARCHITECTURE • INTERIORS • LANDSCAPE ARCHITECTURE • CIVIL ENGINEERING

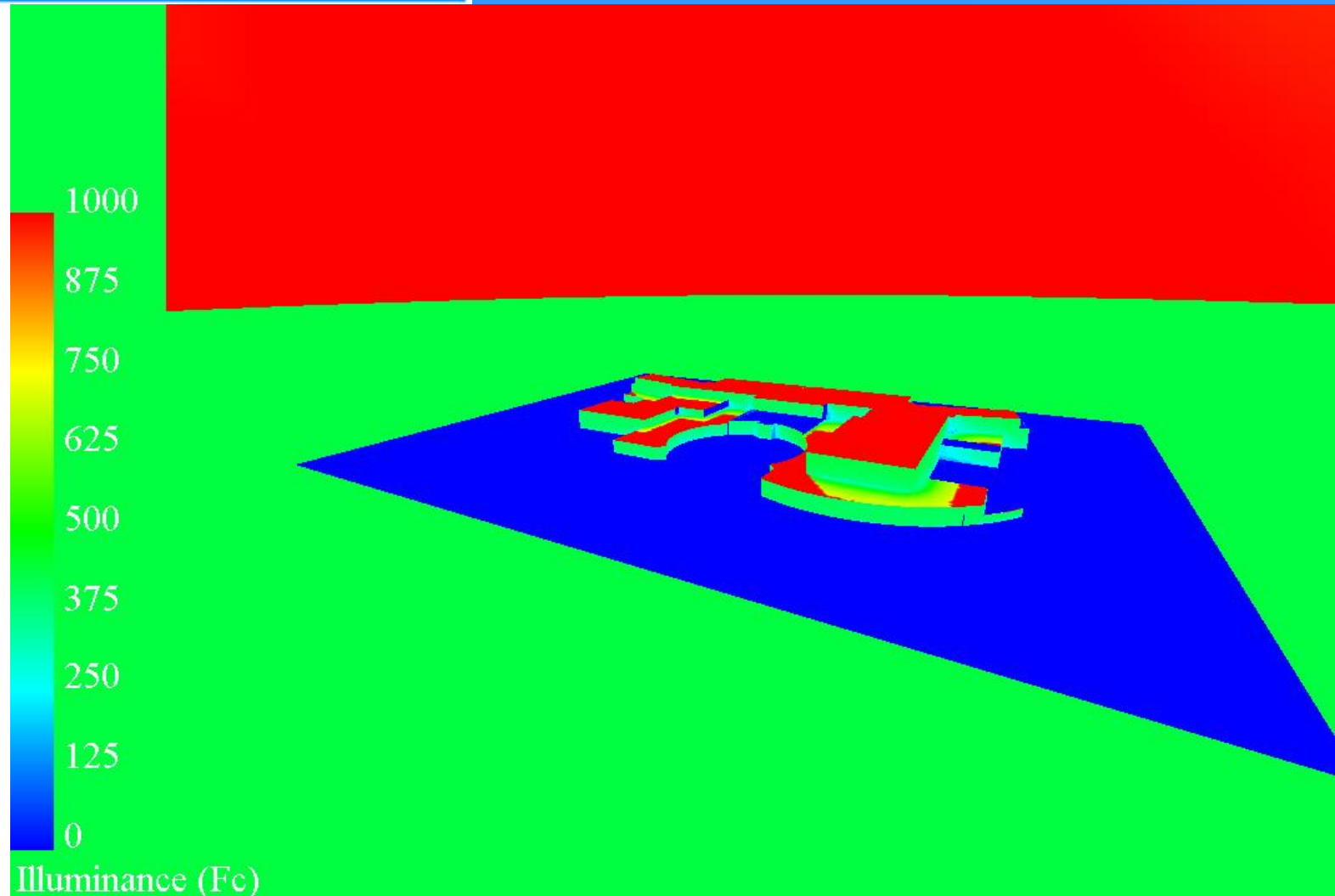






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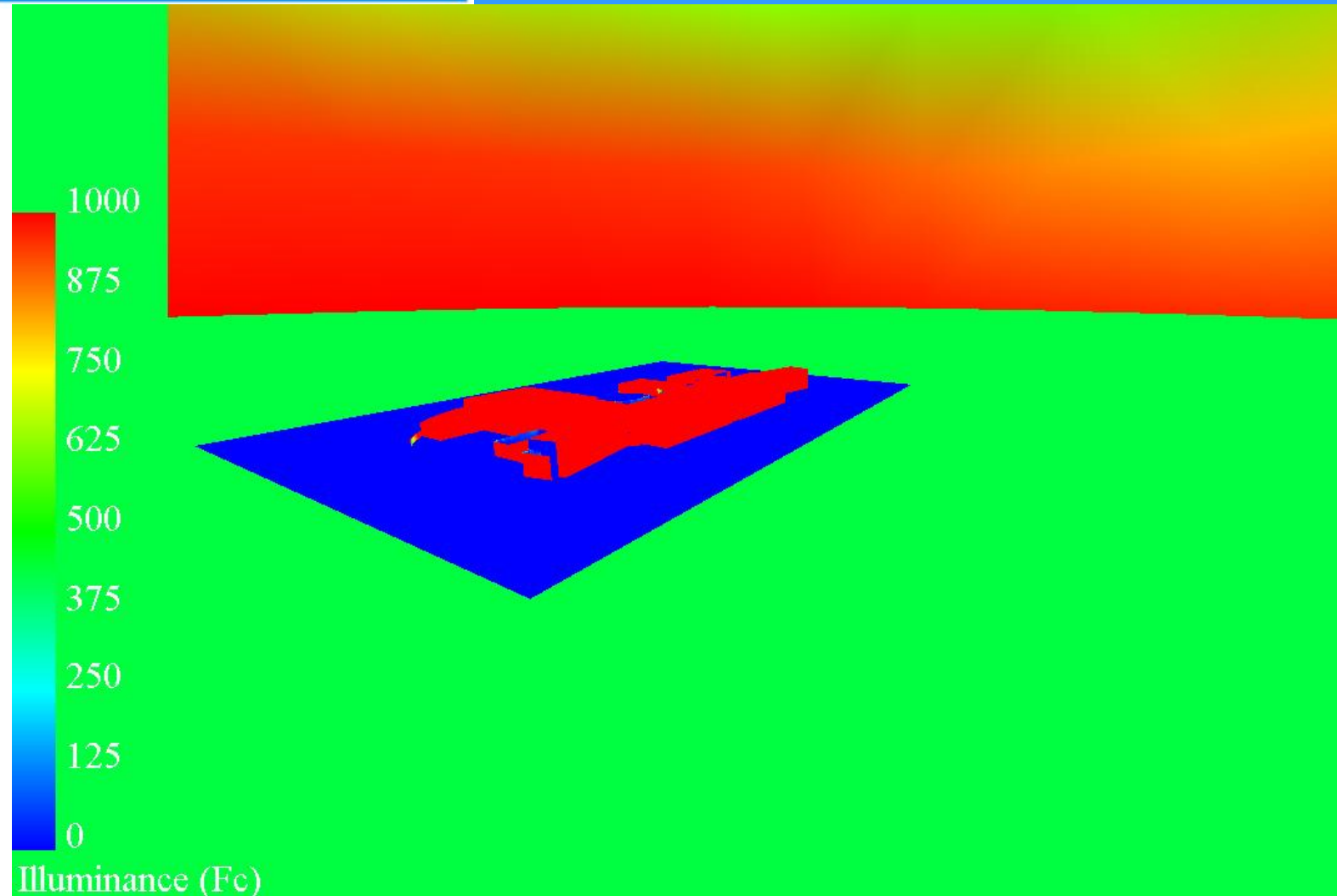
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**SHELBY COUNTY**  
PUBLIC SCHOOLS



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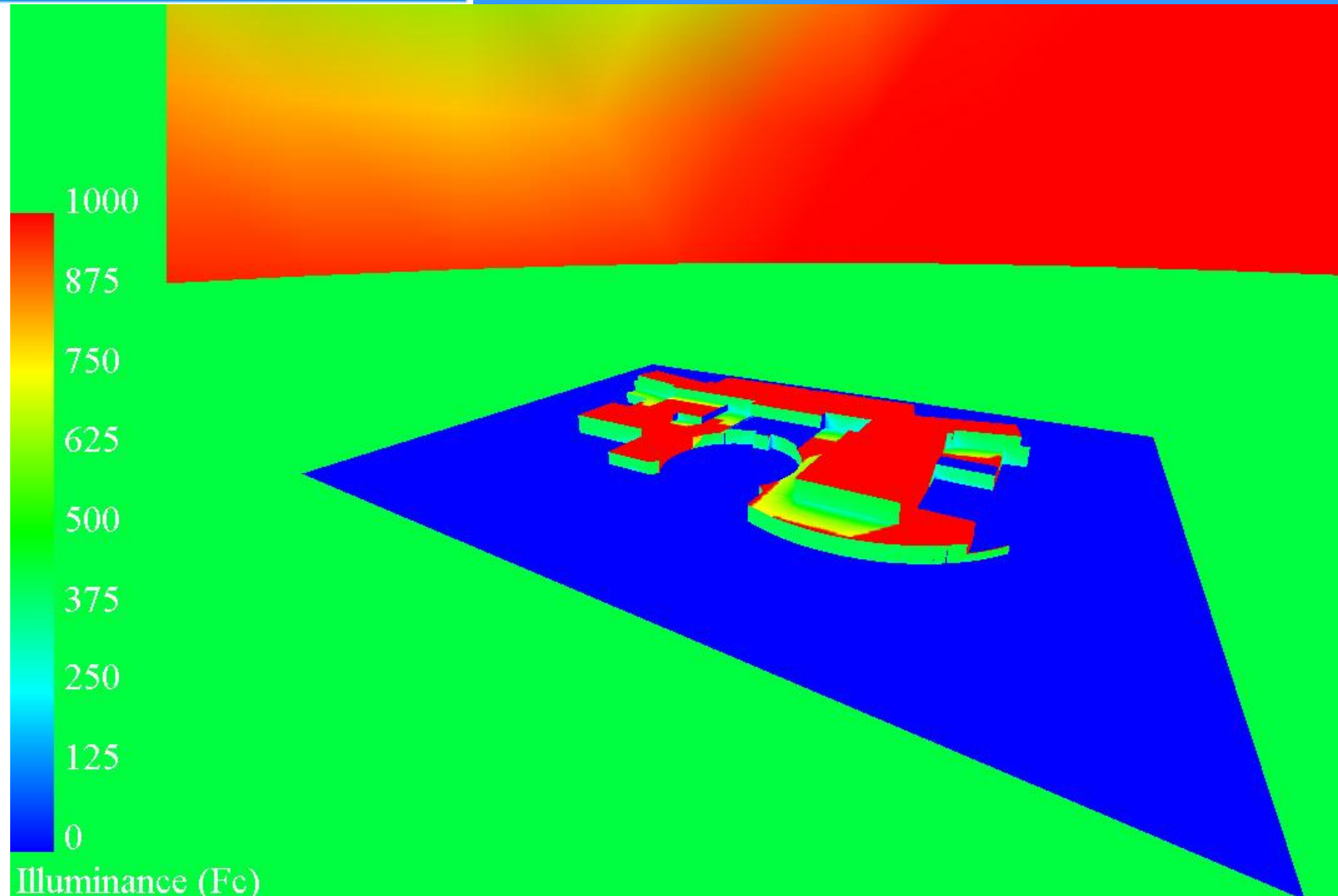
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# SCHEMATIC DESIGN

- Select
  - Strategies & Technologies
    - Enhanced Energy Performance
- Compare
  - Estimated Energy Use vs. Design target



## CHANGE FOR THE BETTER WITH ENERGY STAR

## DESIGN DEVELOPMENT

- Confirm
  - 2030 Goal
  - Energy Star Target Finder
- Identify
  - Energy Efficient Elements
    - Explain Installation, Operation, Other Requirements
- Gather
  - Manufacturer's Data
    - Highlight energy efficiency





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# DAYLIGHTING OPTIONS



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# CONSTRUCTION DOCUMENTS

- Include
  - Project Manual
    - Energy Use Goals
    - Statement of Energy Design Intent
- Document
  - Energy Efficient Construction
- Specify
  - Energy Efficient Materials and Systems
  - Commissioning specified





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# CONSTRUCTION DOCUMENTS

- Establish
  - Accountability for Energy Goals
- Select
  - Qualified Construction Team
    - CM as Advisor
    - General Contractor
    - Manufacturers with proven records
- Continue
  - Focus On Energy Features During Construction



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DESIGNED TO EARN  
ENERGY STAR

- Apply for Energy Star
  - EPA rating of 75 or higher
  - Meeting 2030 Goal
- Complete & Submit
  - Letter of Intent
  - Statement of Energy Design Intent
- Communicate
  - Intent to Meet Energy/C02 reduction goals



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# BUILDING COMMISIONING

- Commissioning
  - Begin Early in Process
- Communicate
  - Energy Performance goals
- Specify
  - Commissioning Activities
- Document
  - Systems & Energy use for Staff



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# OPERATING THE BUILDING

- Communicate
  - Energy Target to Measurement & Verification Team
- Measure Building Energy Use
- Document
  - Actual Energy Use to Design Intent
- Use EPA's Portfolio Manager
  - Track & Rate Annual Energy Use



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EARN ENERGY STAR

- Apply
  - Energy Star Label
  - EPA rating at 75 or Higher
- Complete
  - Application & Energy Use Statement
  - Portfolio Manager
- Promote
  - Energy Star rating
  - Show Case Studies



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## ADDITIONAL INFORMATION

- [www.energystar.gov](http://www.energystar.gov)
- Kerry Whitehouse
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